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SPECIFICATION FOR WATTLE EXTRACT

(Incorporating Amendment No. 1)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Group 2

Indian Standard

SPECIFICATION FOR WATTLE EXTRACT

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Indian Standard

SPECIFICATION FOR WATTLE EXTRACT

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 14 June 1971, after the draft finalized by the Tanning Materials and Allied Products Sectional Committee had been approved by the Chemical Division Council

0.2 Wattle extract also known as mimosa extract is one of the most important tanning materials, and is extensively used in tanning hides and skins. This is mostly produced by extracting the barks of the tree, black wattle (*Acacia mearnsii* De Willd, Syn *Acacia mollissima auct, mult,* non Willd., fam Leguminosae), the native Australian tree now extensively cultivated in South Africa, East Africa and Kenya on plantation lines usually on 8 to 10 years rotation Other less known species of wattle are golden wattle *(Acacia pycnantha* Benth) — very rich in tannin; green wattle [*Acacia decurrens* (Wendl) Willd.] — rich in tannin, and silver or blue wattle [*Acacia dealbata* Link Syn *A decurreus* (Wendl) Willd *var dealbata* (Link) F.v M.] — poor in tannins. The last three species mentioned yield highly coloured extracts compared to the pale coloured infusions obtained from black wattle and these species, therefore, are not used in commercial production of wattle extract

0.3 The two species of wattle, namely, *Acacia mearnsii* De Willd., Sny *Acacia mollisima auct, mult,* non Willd., fam. Leguminosae and *Acacia decurrens* (Wendl.) Willd. have been introduced on plantation scale in the Nilgiris and the Kodai Kanal Hills, Tamil Nadu However, *Acacia mearnsii* species only are raised in organized plantations. *Acacia mearnsiihas* also been introduced successfully inMunnar Hills in Kerala as well as in Khasia and Jayantia Hills in Assam. It is expected that extracts made from these barks will meet substantially its demand by the tanning industry and will help in reducing our import of wattle extract considerably.

0.4 Mimosa extract has a high purity figure, low acid and salts content, high tan-nontan ratio. It penetrates, rapidly and uniformly through pelts and may be used for a wide range of tannage It is less liable to deterioration by attack from micro organisms than most natural tanning materials In addition it has good affinity for the hide fibre and when used alone produces a well tanned leather of medium firmness, good wearing properties and good resistance to water penetration, with a characteristic fine grain and pale colour.

0.5 This standard contains clause **4.1** which calls for agreement between the purchaser and the supplier.

0.6 This edition 1 1 incorporates Amendment No, 1 (January 1975) Side bar indicates modification of the text as the result of incorporation of the amendment.

0.7 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2-1960* The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard

1. SCOPE

1.1 Thisstandard prescribes the requirements, the methods of sampling and test for wattle extract used for tanning.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definition given in IS : 1640-1960† shall apply.

3. TYPES

3.1 The material shall be of the following two types.

a) Solid extract (SE), and

b) Spray dried extract (SDE).

4. REQUIREMENTS

4.1 The materials shall be made from aqueous extract of the bark of the tree, black wattle (*Acacia mearnsii* De Willd. syn *Acacia mollisima auct mult,* non Willd.) conforming to IS . 3968-1967‡

NOTE — Other species of wattle may also be used, if they satisfy the requirements prescribed in this standard.

4.2 The material shall comply with the requirements given in Table 1, when tested according to the method indicated in col 5 of Table 1

4.3 The material, when stored under normal conditions of storage in original unopened containers, shall continue to satisfy the characteristics prescribed in Table 1 for a minimum period of six months from the date of packing.

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*Rules for rounding off numerical values (*revised*)

†Glossary of terms relating to hides, skins and leather

‡Specification for wattle bark

TABLE 1 REQUIREMENTS FOR WATTLE EXTRACT

(*Clause* 4 2)

SL NO	CHARACTERISTIC	REQUIREMENT		METHOD OF TEST (REF TO CL NO IN IS 5466 1969*)
		Solid Extract	Spray Dried Extract	
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, *Max*	17	6	6
ii)	†Non-tan, percent by mass, *Max*	28	27	9
iii)	†Tannins, percent by mass, *Min*	70	72	10
iv)	†Insolubles, percent by mass, *Max*	3	2 5	11
v)	*p*H of analytical solution	4 8-5 4	4 8-5 4	12
vi)	Colour of analytical solution			
	Red, *Max*	3 2	3 2	—
	Yellow/Red, *Min*	1 5	2 0	13
vii)	†Iron, mg/100 g, *Max*	5	5	14
viii)	†Copper, mg/100g, *Max*	5	5	15

*Methods of test for vegetable tanning materials

†Calculated on moisture-free basis

5. PACKING AND MARKING

5.1 Packing — Unless otherwise agreed to between the purchaser and the supplier, the solid extract shall be packed in double gunny bags and the spray dried extract shall be packed in gunny bags, suitably lined with moisture proof paper or polyethylene film.

5.2 Marking — The containers shall be marked with the following information:

a) Name of the material;

b) Type of the material;

c) Weight of the material;

d) Manufacturers name or recognized trade-mark, if any; and

e) Identification in code or otherwise to enable the lot of manufacture to be traced out from records

5.2.1 The containers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well defined system of inspection, testing and quality control during production This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution

6. SAMPLING

6.1 Preparation of Test Samples — Representative test samples of the material shall be prepared as prescribed in Appendix A.

6.2 Number of Tests

6.2.1 Tests for the determination of tannins, non-tannins, moisture, insolubles and colour shall be conducted on each of the individual samples.

6.2.2 Tests for the determination of all other characteristics specified in Table 1 shall be conducted on the composite sample.

6.3 Criteria for Conformity — The lot shall be declared as conforming to the requirements of the specification if all the test results on individual as well as the composite samples meet the relevant stipulations for the different characteristics.

APPENDIX A

(*Clause* 6 1)

PREPARATION OF TEST SAMPLES OF WATTLE EXTRACT

A 1. SCALE OF SAMPLING

A-1.1 Lot — In any consignment, all the containers of the material of the same size and drawn from a single batch of manufacture shall constitute a lot If a consignment is known to consist of different batches of manufacture or of different sizes of containers, then the containers belonging to the same batch and sizes shall be grouped together and each such group shall constitute a separate lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the specification, tests shall be carried out for each lot separately The number of containers to be selected for this purpose (*n*) shall depend on the size of the lot (*N*) and shall be in accordance with Table 2.

TABLE 2 NUMBER OF CONTAINERS TO BE SELECTED FOR SAMPLING

LOT SIZE	NUMBER OF CONTAINERS TO BE SELECTED
N	*n*
(1)	(2)
Up to 40	3
41 „ 65	4
66 „ 110	5
111 „ 180	6
181 „ 300	7
301 „ 500	8
501 „ 800	9
801 and above	10

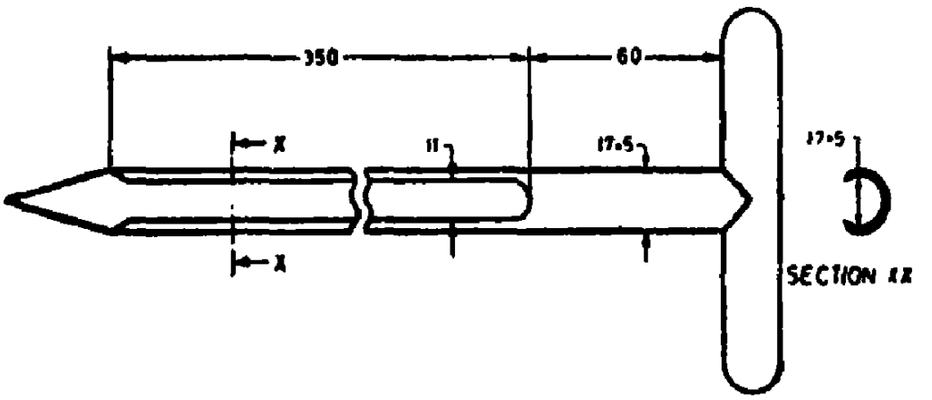
A-1.3 The containers shall be selected at random from the lot and in order to ensure randomness of selection, use of random number tables (*see* IS . 4905-1968*) shall be made. In case, random number tables are not available, the following procedure may be adopted:

Starting from any container, count all the containers in the lot as 1, 2, 3,....., up to *r* and so on, *r* being the integral part of *N/n,* where *N* is the lot size and *n* the number of containers to be selected Every *r*th container thus counted shall be withdrawn to constitute the sample for tests.

A-2. PROCEDURE

A-2.1 For taking out material from the containers, the latter shall be opened and the material taken out with the help of a sampling tool shown in Fig. 1 or any other suitable appliances. From each of the containers selected according to **A-1.3**, small portions of the material shall be drawn from different parts so as to get a representative sample. The total quantity of the material so collected from a container, shall be not less than eight times the quantity for testing as described in **5.2**.

*Method of random sampling



All dimensions in millimetres

FIG 1 SAMPLING TOOL

A-2.2 Out of these portions a small but equal quantity of the material shall be taken out and thoroughly mixed to form a composite sample, about 200 g in weight The composite sample shall be divided into three equal parts, one for the purchaser, another for the supplier and the third to be used as referee sample

A 2.3 The remaining portion of the material from each container shall be divided into three equal parts, each forming an individual sample. One set of individual samples representing the *n* containers selected, shall be marked for the purchaser, another for the supplier and the third to be used as a referee sample

A-2.4 All the individual and composite samples shall be immediately transferred to separate containers and shall be sealed air-tight and labelled with full identification particulars, such as manufacturer's name or trade mark, identification code of the material, batch number (if available), date of sampling, sampler's name, etc

NOTE — The time taken from the opening of original containers to the sealing of samples shall be as short as possible, care being taken to protect the sample from moisture and other contamination

A-2.5 The referee test samples consisting of a composite sample and a set of *n* individual samples shall bear the seal of both the purchaser and the supplier. They shall be kept at a place till such time and under conditions as agreed to between the purchaser and the supplier for use in case of any dispute between the two.

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This Indian Standard has been developed by Technical Committee CDC 36

Amendments Issued Since Publication

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